II. REMARKS

Upon entry of the amendment, 47, 57, 59 to 63, 71 to 73, and 76 will be pending.

Applicants and Applicants' representative gratefully acknowledge the Examiner's careful attention to the subject application and helpful suggestions for advancing prosecution of the application, as made in the telephone conference held April 2, 2003.

A substitute page 8 is submitted herewith, as requested by the Examiner. The substitute page 8 is a copy of page 8 of the PCT application, upon which the subject application is based, and, therefore, does not add new matter.

Claims 39 to 46, 48 to 51, 54 to 56, 64 to 66, 68, 69, 74, 75, and 77 to 80 are cancelled herein without disclaimer, and without prejudice to Applicants' pursuing prosecution of subject matter encompassed within one or more of the claims in an application claiming the benefit of priority of the subject application.

Claim 71 has been amended to incorporate the language of previously pending claim 75, which is cancelled herein. Pursuant to the amendment of claim 71, claim 74 also has been cancelled. Claim 76, which previously depended from claim 74, has been amended to depend from claim 71.

Claims 47, 57, 59, 62 and 63, which previously depended from claim 39 (cancelled herein), have been amended to depend from claim 71. As requested by the Examiner, Applicants clarify that support for claims 59 to 61 is provided by claims 22 to 24 as originally filed. In addition, the claims are supported by Table 1, which discloses many protein families comprising proteins encoded by the exemplified human ORFs, including, for example, families of kinases

(e.g., MAP kinases, see C5 at page 20; 169-16 at page 24; and 215-38 at page 27; and c-Jun kinases, JNK, see 215-2, 169-37, 169-25, and 167-16 at page 70), of phosphatases (e.g., type 2 protein phosphatases, including type 2A, see C3, M428 E1, and M478 A1 at page 31, and C7 and M316 B1 at page 36, and type 2C phosphatases, see M465 A6 at page 66), and of oncogenes (e.g., Ras related proteins, see M512 H5 at page 34, C5 at page 69, M302 B3 at page 75, C1 at page 76, and M312 F3 at page 79). Numerous additional families of proteins are evident upon inspection of Table 1, including, for example, families of growth factors (e.g., bone morphogenic proteins, see E2 at page 33, M316 B1 at page 36, and H4 at page 39), of G protein coupled receptors (e.g., D2 at page 18, 215-25 at page 28, 166-64, 166-88 and 166-76 at page 70, and M423 E5 at page 71), of heat shock proteins (e.g., M365 ER at page 44, and M371 F4 at page 53) and of ribosomal proteins (e.g., M22 D4, M314 E2, M266 F5, etc., at page 68). Further it is noted that the proteins exemplified in the above list for the various families are not exhaustive for each of the families, and further that the exemplified families are only a fraction of the total families disclosed in Table 1, including families comprising more closely related members as well as families comprising more distantly related members. As such, it is submitted that the subject matter of claims 59 to 61 is supported by the subject application.

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Fernandez et al.
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Filed: April 2, 1999
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Attorney Docket No.: INVIT 1140-2

It is submitted that the claims are in condition for allowance, and a notice to that effect is respectfully requested. Although no fee is believed to be necessary in connection with the filing of this Amendment, the Examiner is authorized to charge Deposit Account No. 50-1355 if any fee is required.

The Examiner is invited to contact Applicants' undersigned representative if there are any questions relating to this application.

Respectfully submitted,

Date: April 3, 2003

Richard J. Imbra
Reg. No. 37,643
Telephone: (858) 677-1496
Facsimile: (858) 677-1465

USPTO Customer Number 28213
GRAY CARY WARE & FREIDENRICH LLP
4365 Executive Drive, Suite 1100
San Diego, California 92121-2133

from the protein of interest by methods well known in the art, including the use of inteins (protein self-splicing elements, Chong, *et al, Gene* 192:271-281, 1997).

Epitope tags are short peptide sequences that are recognized by epitope specific antibodies. A fusion protein comprising a recombinant protein and an epitope tag can be simply and easily purified using an antibody bound to a chromatography resin. The presence of the epitope tag furthermore allows the recombinant protein to be detected in subsequent assays, such as Western blots, without having to produce an antibody specific for the recombinant protein itself. Examples of commonly used epitope tags include V5, glutathione-S-transferase (GST), hemaglutinin (HA), the peptide Phe-His-His-Thr-Thr, chitin binding domain, and the like.

A further useful element in an expression vector is a multiple cloning site or polylinker. Synthetic DNA encoding a series of restriction endonuclease recognition sites is inserted into a plasmid vector downstream of the promoter element. These sites are engineered for convenient cloning of DNA into the vector at a specific position.

The foregoing elements can be combined to produce expression vectors useful in the practice of the present invention. Suitable prokaryotic vectors include plasmids such as those capable of replication in E. coli (for example, pBR322, ColEl, pSC101, PACYC 184, itVX, pRSET, pBAD (Invitrogen, Carlsbad, CA) and the like). Such plasmids are disclosed by Sambrook (cf. "Molecular Cloning: A Laboratory Manual", second edition, edited by Sambrook, Fritsch, & Maniatis, Cold Spring Harbor Laboratory, (1989)). Bacillus plasmids include pC194, pC221, pTl27, and the like, and are disclosed by Gryczan (In: The Molecular Biology of the Bacilli, Academic Press, NY (1982), pp. 307-329). Suitable Streptomyces plasmids include plJlOl (Kendall *et al., J. Bacteriol.* 169:4177-4183,1987), and streptomyces bacteriophages such as ϕC31 (Chater *et al.*, In: *Sixth International Symposium on Actinomycetales Biology*, Akademiai Kaido, Budapest, Hungary (1986), pp. 45-54).

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4365 Executive Drive, Suite 1100
San Diego, CA 92121-2133
www.graycary.com

T] 858-677-1456
F] 858-677-1465

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April 3, 2003

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From: Richard J. Imbra
858-677-1496

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Re: **United States Patent Application No. 09/990,091**
Entitled: METHODS FOR PRODUCING LIBRARIES OF EXPRESSIBLE GENE SEQUENCES
Filed: November 21, 2001
Inventors: Fernandez et al.
Our Docket No.: INVIT1120-3

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Attorney Docket No.: INVIT1120-3

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Fernandez et al.	Art Unit:	1639
Application No.:	09/990,091	Examiner:	T. Wessendorf
Filed:	November 21, 2001		
Title:	METHODS FOR PRODUCING LIBRARIES OF EXPRESSIBLE GENE SEQUENCES		

Commissioner for Patents
Washington, DC 20231

TRANSMITTAL SHEET

Sir:

Transmitted herewith for the above-identified application please find:

1. Supplemental Amendment in response to the telephone conference held with the Examiner on April 2, 2003 (8 pages); and

2. Substitute Page 8 (1 page).

CERTIFICATION UNDER 37 CFR §1.6 (d)	
I hereby certify that this paper is being facsimile transmitted to: Examiner, T. Wessendorf - Group Art Unit 1639 at the Patent and Trademark Office on the date shown below:	
Carrie Casey *(Name of person transmitting paper)*	
(Signature)	April 3, 2003 *(Date)*

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102894-44

In re Application of:
Fernandez et al.
Application No.: 09/990,091
Filed: November 21, 2001
Page 2

PATENT
Atty. Docket No.: INVIT1120-3

No fee is deemed necessary in connection with the filing of this paper. However, if a fee is required, the Commissioner is hereby authorized to charge any other required fees associated with the filing submitted herewith, or credit any overpayments to Deposit Account No. 50-1355. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

Date: April 3, 2003

Richard J. Imbra
Reg. No. 37,643
Telephone: (858) 677-1496
Facsimile: (858) 677-1465

USPTO Customer Number 28213
GRAY CARY WARE & FREIDENRICH LLP
4365 Executive Drive, Suite 1100
San Diego, California 92121-2133